REMARKS

In response to the Office Action mailed October 16, 2003, claims 6 and 52 have been amended. No claim has been added or cancelled. Accordingly, claims 1-52 are active in this application, of which claims 1, 6, 13, 20, 25, 29, 32, 34, 43, 50 and 52are independent. The Office Action indicates that claim 24 is objected to but would be allowable if presented in independent form.

Entry of the Amendments and Remarks is respectfully requested because entry of Amendment places the present application in condition for allowance, or in the alternative, better form for appeal. No new matters are believed to be added by these Amendments. Based on the above Amendments and the following Remarks, Applicants respectfully request that the Examiner reconsider the outstanding objections and rejections and they be withdrawn.

Rejections Under 35 U.S.C. §112

In the Office Action, claims 1-5, 14-19, 20-24 and 52 have been rejected under 35 U.S.C. §112, second paragraph. This rejection is respectfully traversed.

With respect to claim 1, the Examiner questioned "How can a fixing unit guide the power supplying lines to the power supplying unit?" How can a fixing unit prevent the power supply lines from being departed from the receiving unit?" (Office Action, page 2).

These questions can be answered by an example shown in Fig. 19 of the present application, in which the guiding project 630 is guiding the first power supply line 261 to the inverter PCB 500. As shown therein, the guiding project 630 prevents the first power supply line 261 from being departed from the mold frame 600.

With respect to claim 14, the Examiner asserted "There is nowhere in specification and Fig. 4 discloses "the printed circuit board is fixed to the rear surface of the receiving unit to be placed between the receiving unit and the fixing unit"" (Office Action, page 3).

An example of the claimed feature is shown in Fig. 4 of the present application, in which the printed circuit boards 400 and 500 are fixed to the rear surface of the bottom chassis 300 and the printed circuit boards 400 and 500 are placed between the bottom chassis 300 and the first and second brackets 800 and 900. Also, Fig. 12 shows the printed circuit board 500 fixed to the rear surface of the bottom chassis 300 to be located between the bottom chassis 300 and the second bracket 900.

With respect to claim 17, the Examiner asserted "There is no where in specification and in Fig. 4 discloses "the fixing unit is a bracket having a first end combined with the printed circuit board and a second end combined with the rear surface of the receiving means"" (Office Action, page 3).

An example of the claimed feature is shown in Fig. 12 of the present application, in which the bracket 900 has the first end combined with the printed circuit board 500 and the second end combined with the rear surface of the mold frame 600.

With respect to claim 20, the Examiner asserted "There is no where in specification and Fig. 4 discloses a locking member extends through the first, second and third locking structure from an outside of the shielding unit toward the display unit".

An example of this feature is shown in Fig. 24 of the present application, in which the screws 804, 806 and 808 are extended from outside of the shielding case 700 toward the display unit 270 in Fig. 4. The screws 804, 806 and 808 are extended through the locking holes 343a, 344a and 345a formed in the shielding case 700, the locking holes 930, 931, 933 formed in the

bracket 900 (see Fig. 9) and the locking holes 673, 674, 676 formed in the mold frame 600 (and/or locking holes 343, 344, 345 formed in the bottom chassis 300).

Also, the Examiner asserted that nowhere in the specification and figures shows "fixing unit combined with the printed circuit board and having at least one second locking structure" in claim 20. An example of this feature is shown in Fig. 9, in which the bracket 900 is combined with the printed circuit board 500 and having the locking holes 930, 931 and 933.

With respect to claim 22, the Examiner asserted that nowhere in the specification and figures shows "the fixing member has a first end combined with the printed circuit board and a second end having the second locking structure combined with the first locking structure formed on the receiving unit".

An example of this feature is shown in Fig. 11 of the present application, in which the bracket 900 has the first end combined with the printed circuit board 500 and the second end having locking holes 930, 931, 933 (see Fig. 9) which is combined with the locking holes 343, 344, 345 of the bottom chassis 300.

With respect to claim 52, the Examiner asserted "There is nowhere in specification and Fig. 4 discloses "printed circuit board … having a bottom surface located below the receiving unit" (Office Action, page 5).

In this response, claim 52 has been amended and now recites "a printed circuit board for controlling the displaying unit and having a bottom surface *attached directly to* the receiving unit". An example of this feature is shown in Fig. 16 of the present application, in which the bottom surface of the printed circuit board 400 is attached directed to the bottom chassis 300.

As mentioned so far, the claimed features that have been asserted not to be described in the specification and the figures are in fact shown in the drawings and its corresponding portions

of the specification. Thus, claim 1-5, 14-19, 20-24 and 52 particularly point out the subject matter which Applicants regard as the invention, as requested under 35 U.S.C. §112, second paragraph.

Accordingly, Applicants respectfully request that the rejection over claims 1-5, 14-19, 20-24 and 52 be withdrawn.

Rejections Under 35 U.S.C. §102

In the Office Action, claims 6-10, 13 and 50-52 have been rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 5,986,726 issued to Murai ("Murai"). This rejection is respectfully traversed.

With respect to claims 6-10, first, Applicants previously argued that the light guiding plate 7 of Murai does not correspond to the claimed receiving unit. In this regard, the Examiner stated "Murai discloses the light guide plate 7 acting as a receiving unit receiving the display unit since the display unit lies on the light guide plate. The light guide inputs light into the display unit, thus the light guide receives the display unit for displaying image. A specification of the instant application discloses (paragraph 85) "bottom chassis 300 for receiving the display unit 270", where the bottom chassis 300 acting as receiving unit receiving the display unit since the display unit lies on bottom chassis. Therefore, Murai discloses the displaying unit lies on the light guide plate, thereby, the displaying unit is received in or on the light guide plate" (Office Action, page 16).

It is submitted that "A lies on B" does not always mean that "B receives A". Even when B lies on A, B can receive A. B would receive A only when B performs the function of receiving

A regardless of whether B lies on A or not. Thus, one cannot make a determination as to whether B receives A based on the locations of A and B.

In the Office Action, the Examiner characterized the term "receiving" based on the locations. However, as previously mentioned, the locations cannot be the determining factor for the term "receiving". As the Examiner noted, the present application discloses a mold frame and a bottom chassis as the examples of the receiving unit. Similarly, Fig. 1 of Murai shows the resin frame 2 and a metal sheet 1 function as a receiving unit for receiving the LCD 5 and the light guiding plate 7. The light guiding plate 7 is received by the combination of the resin frame 2 and the metal sheet 1. Thus, it is submitted that the light guiding plate 7 of Murai does not correspond to the claimed receiving unit.

Second, independent claim 6 has been amended and now recites:

> "6. A liquid crystal display device comprising:
> ...
> a printed circuit board mounted on a rear surface of the receiving unit and connected to the panel driving printed circuit board; and
> a shielding unit *covering the rear surface of the receiving unit and the printed circuit board mounted on the rear surface of the receiving unit* for shielding an electromagnetic wave from the displaying unit and the printed circuit board".

These features are shown in Fig. 4 of the present application, in which the printed circuit boards 400 and 500 are mounted on the rear surface of the bottom chassis 300 and the shield case 700 is covering the rear surface of the bottom chassis 300 and the printed circuit boards 400 and 500 mounted on the rear surface of the bottom chassis.

In this regard, even if the light guiding plate 7 corresponds to the claimed receiving unit as the Examiner asserted, in Fig. 1 of Murai, the driver circuit unit 4 is not mounted on the rear

surface of the light guiding plate 7 (asserted receiving unit). Rather, the driver circuit unit 4 is mounted on the metal sheet 1. Thus, it is submitted that claim 6 is patentable over Murai. Claims 7-10 that are dependent from claim 6 would be also patentable at least for the same reason.

With respect to claim 13, this claim recites "a fixing unit for fixing the printed circuit board to the receiving unit". The Examiner asserted that, in Murai, it is the light guiding plate 7, not the metal sheet 1 and the resin frame 2, that corresponds to the claimed receiving unit.

Murai describes "The driver circuit board 4 … is assembled with the metal sheet 1 and the resin frame 2 and is fixed by screws 9 at places where the grooves 15a, 15b and 15c and the cut-out portion 16 are not provided" (column 5, lines 6-9). This means the driver circuit board 4 is fixed to the metal sheet 1 and the resin frame 2, not the light guiding plate 7. Murai fails to disclose "a fixing unit (screws 9) for fixing the printed circuit board (driver circuit board 4) to the receiving unit (light guiding plate 7)". Thus, it is submitted that claim 13 is patentable over Murai.

With respect to claim 50 and 51, independent claim 50 recites "the printed circuit board *directly* mounted on a rear surface of the receiving unit". The Examiner asserted that, in Murai, it is the light guiding plate 7, not the metal sheet 1 and the resin frame 2, that corresponds to the claimed receiving unit.

In Murai, the printed circuit board 4 is indirectly mounted on the metal sheet 1 with the isolation sheet 3 therebetween. The printed circuit board 4 is spaced apart from the light guiding plate 7 with the metal sheet 1 and the isolation sheet 3 therebetween. Thus, Mura does not disclose "the printed circuit board (the driver circuit unit 4) directly mounted on a rear surface of the receiving unit (light guiding plate 7)", as claimed. Thus, it is submitted that claim 50 is

patentable over Murai. Claim 51 that is dependent from claim 50 would be also patentable at least for the same reason.

With respect to independent claim 52, this claimed has been amended to recite "a printed circuit board for controlling the displaying unit and having a bottom surface *attached directly to* the receiving unit". As previously mentioned, in Murai, the printed circuit board 4 is indirectly mounted on the metal sheet 1 with the isolation sheet 3 therebetween. The printed circuit board 4 is spaced apart from the light guiding plate 7 with the metal sheet 1 and the isolation sheet 3 therebetween. Thus, it is submitted that claim 52 is patentable over Murai.

Accordingly, Applicants respectfully request that the rejection over claims 6-10, 13 and 50-52 be withdrawn.

In the Office Action, claims 13-19 and 34-42 have been rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 5,313,318 issued to Gruenberg, *et al.* ("Gruenberg"). This rejection is respectfully traversed.

In the Office Action, the Examiner asserted that the light guide plate 14 of Gruenberg corresponds to the claimed display unit. As previously mentioned, the light guide 14 does not correspond to the claimed receiving unit simply because the light guide 14 lies on the light guide 14. Also, as shown in Fig. 1, a spacer 15 is formed between the LCD 10 and the light guide 14. Thus, the structure shown in Fig. 1 of Gruenberg emphasizes separation between the LCD 10 and the light guide 14, and therefore the light guide 14 does not receive the LCD 10.

In Gruenberg, the LCD unit is received by the metal frame 16, which receives the combinational structure of the LCD 10, the light guide 14 and the circuit board 19. The printed circuit board 19 is in contact with the lower tip of the metal frame 16. Thus, the circuit board 19

is not *mounted* on the metal frame 16 because "being in contact" does not mean "being mounted". The circuit board 19 is not even located on the rear surface of the receiving unit.

For these reasons, it is submitted that Gruenberg fails to disclose "a printed circuit board mounted on a rear surface of the receiving unit", as claimed. Thus, claim 13 would be patentable over Gruenberg. Claims 14-19 that are dependent from claim 13 would be also patentable at least for the same reason.

With respect to claims 34-42, independent claim 34 recites "the printed circuit board being mounted *directly* on a rear surface of the receiving unit". As previously mentioned, Gruenberg fails to disclose the circuit board 19 *mounted* on the metal frame 16. As asserted by the Examiner, if the light guide 14 is the claimed receiving unit, the circuit board 19 is spaced apart from the light guide 14 with a spacer 14 therebetween. Thus, it is submitted that claim 34 is patentable over Gruenberg. Claims 35-42 that are dependent from claim 34 would be also patentable at least for the same reason.

Accordingly, Applicants respectfully request that the rejection over claims 13-19 and 34-42 be withdrawn.

In the Office Action, claims 32 and 33 have been rejected under 35 U.S.C. §102(b) for being anticipated by U. S. Patent No. 5,815,227 issued to Lee ("Lee"). This rejection is respectfully traversed.

Claim 32 recites "a plurality of supporting members are formed on a rear surface of the receiving unit to prevent the receiving unit from being inclined when the lamp unit is combined with the receiving unit". An example of this feature is shown in Fig. 5 of the present application, in which "the mold frame 600 has first, second, third and fourth supports 610, 612, 614 and 616

at four corners thereof to prevent the mold frame 600 from declining toward a side during the assembly of the liquid crystal display device" (Specification, page 24, lines 9-11).

In this regard, the Examiner asserts that, in Fig. 4 of Lee, the locking protrusion "a" formed on an upper surface of light guiding plate 105 corresponds to the claimed supporting members. This assertion is respectfully disagreed with.

As previously mentioned, the light inducing plate 105 does not correspond to the claimed receiving unit. Thus, the locking protrusion "a" is formed on the light inducing plate 105, not the claimed receiving unit.

Also, the locking protrusion "a" is for locking, not for preventing the receiving unit from being inclined when the lamp unit is combined with the receiving unit", as claimed. Lee describes "a locking protrusion a and a locking hole a' are formed on at least one of the upper and lower surfaces of light-inducing plate 105 and a corresponding portion of lamp over 125, respectively" and the reason why they are formed is "*For ... coupling*" (Lee, page 3, lines 12-17). Thus, the *locking* protrusion "a" is provided for *locking*, not "to prevent the receiving unit from being inclined when the lamp unit is combined with the receiving unit", as claimed.

Thus, it is submitted that claim 32 is patentable over Lee. Claim 33 that is dependent from claim 32 would be also patentable at least for the same reason. Accordingly, Applicants respectfully request that the rejection over claims 32 and 33 be withdrawn.

In the Office Action, claims 1, 2, 20-23, 25 and 34-49 have been rejected under 35 U.S.C. §102(e) for being anticipated by U. S. Patent No. 6,342,932 issued to Terao, *et al.* ("Terao"). This rejection is respectfully traversed.

With respect to claims 1-2, independent claim 1 recites "power supplying lines connected between the light generating unit and the power supplying unit and supplying the power to the light generating unit" and "a fixing unit formed on the receiving unit and guiding the power supplying lines to the power supplying unit to prevent power supplying lines from being departed from the receiving unit".

In this regard, the Examiner asserted that the LED chip 22 corresponds to the claimed light generating unit and the PCB 20 corresponds to the claimed power supplying unit. However, in Terao, there is no power supplying line connected between the LED chips 22 and the PCB 20 that is guided by the positioning bosses 16 (asserted claimed fixing unit). This is further evidenced by the fact that the Examiner was not able to locate any element corresponds to the claimed power supplying line. Even if such power supplying lines are assumed to be there, there is no teaching from Terao that the position bosses 16 are configured to prevent any line from being departed from the holding member 10. Thus, it is submitted that claim 1 is patentable over Terao. Claim 2 that is dependent from claim 1 would be also patentable at least for the same reason.

With respect to claims 20-23, independent claim 20 recites "a locking member extends through the first, second and third locking structure from an outside of the shielding unit toward the display unit".

In this regard, the Examiner asserted that the positioning bosses 16 that are extended from the bottom surface of the holding member 10 toward the PCB 20 corresponds to the claimed locking member. However, as shown in Fig. 1, the positioning bosses 16 are formed on the bottom surface of the holding member 10 toward outside of the PCB 20. Thus, Terao fails to disclose the claimed locking member.

Also, the Examiner asserted that Terao discloses a shielding unit is formed on the hold member and this is taught in column col. 2, lines 55-60 of Terao. However, the portion of the specification pointed out by the Examiner does not disclose anything that can be related to shielding. Particularly, Terao does not disclose any shielding member provided for shielding an electromagnetic wave from the FCB 12.

Further, the Examiner asserted that the hooks 17 extended from the holding member 10 correspond to the claimed fixing unit. Previously, the Examiner asserted that the FCB 12 corresponds to the claimed printed circuit board. However, the hooks 17 is combined with the PCB 12, not with the FCB 12. Also, previously, the Examiner asserted that the positioning bosses 16 correspond to the claimed locking member. However, the hooks 17 do not have any kind of locking structure through which the positioning bosses 16 are extended.

For these reasons, Applicants submitted that claim 20 is patentable over Terao. Claims 21-23 that are dependent from claim 20 would be also patentable at least for the same reason.

With respect to claim 25, this claim recites "a shielding unit combined to a rear surface of the receiving unit …" and "the shielding unit is combined with the receiving unit by laterally pushing the shielding unit along the guide groove".

In this regard, the Examiner asserted that Terao discloses a shielding unit formed on the holding member 10 in col. 2 and lines 55-60. However, as previously mentioned, this portion of the specification does not even remotely suggest any kind of shielding unit. Also, Terao does not disclose "the shielding unit is combined with the receiving unit by laterally pushing the shielding unit along the guide groove", as claimed. Thus, it is submitted that claim 25 is patentable over Terao.

With respect to claims 34-42, independent claim 34 recites "a printed circuit board controlling the display unit, the printed circuit board being mounted *directly* on a rear surface of the receiving unit".

In this regard, the Examiner asserted that the holding member 10 corresponds to the claimed receiving unit, and the FCB 12 corresponds to the claimed printed circuit board. However, as shown in Fig. 2 of Terao, the holding member 10 and the FCB 12 are spaced apart from each other with the corrugated elastic member 40 therebetween. Thus, the FCB is not directly mounted on the rear surface of the holding member. For this reason, Applicants submit that claim 34 is patentable over Terao. Claims 35-42 that are dependent from claim 34 would be also patentable at least for the same reason.

With respect to claims 43-49, independent claim 43 recites "disposing a shielding unit having at least one third locking structure on the rear surface of the receiving unit" and "fixing the shielding unit and the printed circuit board to the receiving unit by extending a locking unit through the first, second and third locking structure from an outside of the shielding unit towards the display unit".

In this regard, as previously mentioned with respect to claim 34, Terao does not disclose a shielding unit. Also, Terao does not disclose that the positioning bosses 16 (asserted claimed locking unit) are extended from outside toward the LCD unit 11 (asserted claimed display unit). Thus, it is submitted that claim 43 is patentable over Terao. Claims 44-49 that are dependent from claim 43 would be also patentable at least for the same reason.

Accordingly, Applicants respectfully request that the rejection over claims 1, 2, 20-23, 25 and 34-49 be withdrawn.

In the Office Action, claims 6-12 have been rejected under 35 U.S.C. §102(e) for being anticipated by U. S. Patent No. 6,256,075 issued to Yang ("Yang"). This rejection is respectfully traversed.

In the Office Action, the Examiner asserted "Claim 6 does not cite the limitation a panel driving printing board formed on a side of the LCD device. Nowhere in specification and Figures show this feature "a panel driving board formed on a side of the LCD panel"" (Office Action, page 17).

However, independent claim 6 recites "a panel driving circuit board formed on a side of the display unit and controlling the display unit". Fig. 3 of the present application actually shows "a panel-driving printed circuit board 276" (page 19, lines 1-2) formed on a side of the liquid crystal display panel 271.

In this regard, in Fig. 2 of Yang, there is no panel driving circuit board formed on a side of the LCD panel 13. Thus, Yang would not be able to disclose the PCB 15 (asserted claimed printed circuit board) would not be connected to any panel driving circuit board. Thus, it is submitted that claim 6 is patentable over Yang. Claims 7-12 that are dependent from claim 6 would be also patentable over Yang at least for the same reason.

Accordingly, Applicants respectfully request that the rejection over claims 6-12 be withdrawn.

Rejections Under 35 U.S.C. §103

In the Office Action, claims 3-5, 26-28 and 29-31 have been rejected under 35 U.S.C. §103(a) for being unpatentable over Terao, et al. ("Terao") in view of U. S. Patent No. 5,048,933 issued to Asano ("Asano"). This rejection is respectfully disagreed with.

issued to Asano ("Asano"). This rejection is respectfully traversed.

Claims 3-5 are dependent from independent claim 1. As previously mentioned, claim 1 is patentable over Terao. For example, Terao fails to disclose the claimed power supplying lines connected between the LED chips 22 and the PCB 20 that is guided by the positioning bosses 16 (asserted claimed fixing unit). Even if such power supplying lines are assumed to be there, there is no teaching from Terao that the position bosses 16 are configured to prevent any line from being departed from the holding member 10.

Asano is directed to a transmission type liquid crystal display but does not disclose the power supplying lines. Asano does not cure the deficiency from Terao. Thus, claim 1 is still patentable over the asserted combination of Terao and Asano. Claims 3-5 that are dependent from claim 1 would be also patentable at least for the same reason.

Claims 26-28 are dependent from independent claim 25. As previously mentioned, claim 25 is patentable over Terao. For example, Terao does not disclose the claimed shielding unit and "the shielding unit is combined with the receiving unit by laterally pushing the shielding unit along the guide groove", as claimed. Asano does not disclose or suggest the claimed shield unit. Thus, claim 25 is patentable over the asserted combination of Terao and Isano. Claims 26-28 that are dependent from claim 25 would be also patentable at least for the same reason.

With respect to claims 29-31, independent claim 29 recites "a shielding unit combined to the rear surface of the receiving unit and shielding an electromagnetic wave …". This claimed feature is shown in Figs. 21, 23, 24 and 25 of the present application.

In this regard, as previously mentioned, Terao does not disclose the claimed shielding unit combined to the rear surface of the holding member 10. Asano is directed to a transmission type liquid crystal display device but does not disclose the claimed shielding unit. Thus, claim 29

is patentable over the asserted combination of Terao and Isano. Claims 30 and 31 that are dependent from claim 29 would be also patentable at least for the same reason.

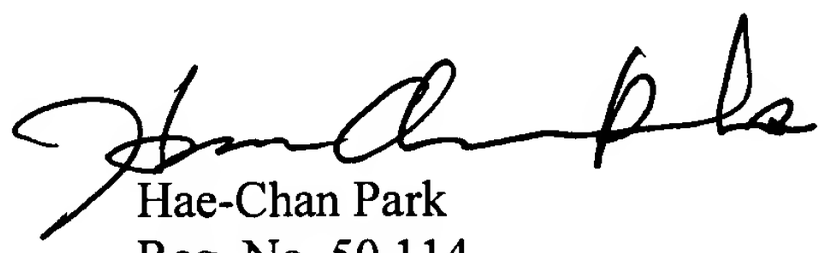
Accordingly, Applicants respectfully request that the rejection over claims 3-5, 26-28 and 29-31 be withdrawn.

CONCLUSION

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action and, as such, claims 1-52 are in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,



Hae-Chan Park
Reg. No. 50,114

Date: January 15, 2004

McGuireWoods LLP
1750 Tysons Boulevard
Suite 1800
McLean, VA 22102-4215
Tel: 703-712-5365
Fax: 703-712-5280
HCP:WSC/kbs

\\COM\282596.1